WHAT IS CLAIMED IS:

1. A photothermographic material comprising a photosensitive silver halide, a reducing agent for reducing silver ions, a binder and a non-photosensitive organic silver salt, wherein the photosensitive silver halide has a silver iodide content ranging from 40 mol% to 100 mol%, and has a particle size ranging from 5 nm to 80 nm, and wherein the non-photosensitive organic silver salt is prepared in the presence of the photosensitive silver halide which has been preformed, such that the non-photosensitive organic silver salt includes the photosensitive silver halide.

2. The photothermographic material according to claim 1, wherein the non-photosensitive organic silver salt including the photosensitive silver halide is produced by adding an alkali metal salt to an organic acid to prepare an alkali metal soap of at least a part of the organic acid, mixing the prepared alkali metal soap with the photosensitive silver halide, and thereafter admixing therewith a water-soluble silver salt.

3. The photothermographic material according to claim 1, wherein the non-photosensitive organic silver salt has a silver behenate content ranging from 40 mol% to 70 mol%.

4. The photothermographic material according to claim 2, wherein the non-photosensitive organic silver salt has a silver behenate content ranging from 40 mol% to 70 mol%.

5. The photothermographic material according to claim 1, wherein the binder is polyvinyl butyral.

6. The photothermographic material according to claim 1, wherein methyl ethyl ketone is used as a solvent for a coating solution, and a residual amount of the methyl ethyl ketone ranges from 0.1 mg/m^2 to 150 mg/m^2.

7. The photothermographic material according to claim 1, wherein the photosensitive silver halide has a particle size ranging from 5 nm to 50 nm.

8. The photothermographic material according to claim 1, further comprising a compound selected from compounds of the following types 1 to 5:

(Type 1)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases two or more electrons through a bond cleaving reaction;

(Type 2)

a compound that has two or more adsorptive groups to the silver halide in the same molecular structure and can be one-electron oxidized to produce a one-electron oxidation product which further releases one electron through a bond cleaving reaction;

(Type 3)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after a bond forming process;

(Type 4)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after an intra-molecular ring opening reaction; and

(Type 5)

a compound represented by X-Y, in which X represents a reducing group and Y represents a leaving group, wherein the reducing group X can be one-electron oxidized to produce a one-electron oxidation product, which leaves Y to produce X radical through an X-Y bond cleaving reaction, followed by releasing one more electrons from the X radical.

9. The photothermographic material according to claim 2, further comprising a compound selected from compounds of the following types 1 to 5:

(Type 1)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases two or more electrons through a bond cleaving reaction;

(Type 2)

a compound that has two or more adsorptive groups to the silver

halide in the same molecular structure and can be one-electron oxidized to produce a one-electron oxidation product which further releases one electron through a bond cleaving reaction;

(Type 3)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after a bond forming process;

(Type 4)

a compound that can be one-electron oxidized to produce a one-electron oxidation product, which releases additional one or more electrons after an intra-molecular ring opening reaction; and

(Type 5)

a compound represented by X-Y, in which X represents a reducing group and Y represents a leaving group, wherein the reducing group X can be one-electron oxidized to produce a one-electron oxidation product, which leaves Y to produce X radical through an X-Y bond cleaving reaction, followed by releasing one more electrons from the X radical.

10. The photothermographic material according to claim 1, further comprising a compound represented by formula (H):

Formula (H)

$$Q - (Y)n - C(Z_1)\ (Z_2)\ X$$

wherein Q represents an alkyl group, an aryl group or a heterocyclic group; Y represents a bivalent linking group; n represents 0

or 1; Z_1 and Z_2 represent a halogen atom; and X represents a hydrogen atom or an electron attractive group.

11. The photothermographic material according to claim 2, further contaaining a compound represented by formula (H):

Formula (H)

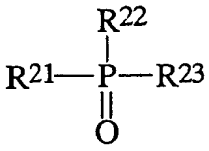
$$Q - (Y)n - C(Z_1)(Z_2)X$$

wherein Q represents an alkyl group, an aryl group or a heterocyclic group; Y represents a bivalent linking group; n represents 0 or 1; Z_1 and Z_2 represent a halogen atom; and X represents a hydrogen atom or an electron attractive group.

12. The photothermographic material according to claim 1, wherein the reducing agent is a bisphenol-type reducing agent.

13. The photothermographic material according to claim 1, further comprising a compound represented by formula (J):

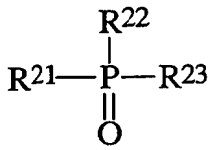
Formula (J)



wherein R^{21} to R^{23} each independently represent an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an amino group or a heterocyclic group.

14. The photothermographic material according to claim 2, further comprising a compound represented by formula (J):

Formula (J)



wherein R^{21} to R^{23} each independently represent an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an amino group or a heterocyclic group.

15. The photothermographic material according to claim 1, further comprising a development accelerator.

16. The photothermographic material according to claim 2, further comprising a development accelerator.

17. The photothermographic material according to claim 15, wherein the development accelerator is a hydrazine-based or naphthol-based compound.

18. The photothermographic material according to claim 1, wherein the photosensitive silver halide has a silver iodide content ranging from 80 mol% to 100 mol%.

19. The photothermographic material according to claim 1, wherein the photosensitive silver halide has a silver iodide content ranging from 85 mol% to 100 mol%.

20. The photothermographic material according to claim 1, wherein the photosensitive silver halide has a silver iodide content ranging from 90 mol% to 100 mol%.